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No. 3.

THE PHYLLOSTICTAS OF NORTH AMERICA.

BY GEORGE MARTIN.

(Concluded from page 20.)

55. PHYLLOSTICTA DODECATHEI, Trelease. Journ. Mycol., 1, p. 14.

"Spots circular, brown, about 3 millim. in diameter; sporulæ hyaline, ovoid to oblong, sometimes nearly spherical, eguttulate, $2-5 \times 3\frac{1}{2}-7 \mu$, unicellular." On leaves of *Dodacatheon Meadia*.

56. PHYLLOSTICTA GAULTHERIÆ, E. & E. Journ. Mycol., 1, p. 153.

"Spots scattered, amphigenous, dark reddish-purple, 1-2 millim. in diameter, border still darker; perithecia amphigenous, sublenticular, black, coarsely cellular, slightly prominent, covered by the cuticle, $100-115 \mu$; sporulæ elliptical, hyaline, granular, $5-7 \times 4-5 \mu$. On living leaves of *Gaultheria procumbens*" Newfield, N. J.

57. PHYLLOSTICTA INNUMERA, Cke. & Hark. Grev., 9, p. 84.

"Hypophyllous; perithecia small, sometimes in orbicular spots, and at other times in large gregarious patches; sporulæ elliptic, hyaline, continuous, $4\frac{1}{2} \times 2 \mu$." On living leaves of (?). California.

58. PHYLLOSTICTA LAPPÆ, Sacc. Mich. 1, p. 151. N. A. F., No. 1166.

Spots subcircular, nearly white, $1-1\frac{1}{2}$ millim., border brown, raised; perithecia brown, lenticular, erumpent, amphigenous, $70-100 \mu$; sporulæ hyaline, ovoid-oblong, $4\frac{1}{2}-6 \times 3 \mu$. On living leaves of *Lappa major*. Ohio.

59. PHYLLOSTICTA NESÆÆ, Pk. 34th Rep. N. Y. St. Mus., p. 44.

"Spots subcircular, pale red, scattered, or confluent; perithecia hypophyllous, small, numerous; sporulæ oblong, nearly straight, hyaline, $7-10 \times 2\frac{1}{2} \mu$." On leaves of *Nesæa verticillata*. New York.

60. PHYLLOSTICTA ORONTII, E. & M. Am. Nat., 16, p. 1002.

Spots large, yellow, border indefinite; perithecia brown, epiphyllous, 56μ in diameter; sporulæ hyaline, oval, $6 \times 2\frac{1}{2} \mu$. On leaves of *Orontium aquaticum*. New Jersey.

61. PHYLLOSTICTA PHASEOLINA, Sacc. Mich. 1, p. 49.

"Spots large, indeterminate, yellow; perithecia scattered, lenticular, erumpent, 70μ in diameter; sporulæ ovoid-oblong, mostly straight, hyaline, $6 \times 2\frac{1}{2} \mu$." On leaves of *Phaseolus diversifolius*. North America.

62. PHYLLOSTICTA PHYTOLACCÆ, Cke. Grev., 12, p. 25, Rav., F. A., No. 514.

"Epiphyllous; spots orbicular, gray brown; perithecia minute, semi-innate, light brown; sporulæ short, linear, obtuse, hyaline, straight, $8 \times 1\frac{1}{2} \mu$." On leaves of *Phytolacca decandra*. South Carolina.

63. PHYLLOSTICTA PODOPHYLLI, Winter. Torrey Bull., 10, p. 49. Ellis. N. A. F., No. 1156. *Ascospora Podophylli*. Curt. Pk., N. Y., St. Rep. No. 23.

Spots large, irregular, often confluent, pale brown; perithecia black, globose, amphigenous, clustered, often near the veins, $100-120 \mu$ in diameter; sporulæ subglobose, or ellipsoid, hyaline, granular, $8-9 \times 5-6 \mu$. On leaves of *Podophyllum peltatum*. Pennsylvania and Kentucky.

64. PHYLLOSTICTA SANGUINARIÆ, Winter. Journ. Mycol., 1, p. 123.

Spots scattered, round or irregular, gray, or white, 1-5 millim., border brownish-purple, distinct, elevated; perithecia epiphyllous, gregarious, globose, punctiform, erumpent, black, 100μ in diameter; sporulæ numerous, elliptic, oblong, one end a little attenuated, hyaline, $5-7 \times 1\frac{1}{2}-2\frac{1}{2} \mu$. On leaves of *Sanguinaria Canadensis*. Missouri.

65. PHYLLOSTICTA SOLANI, E. & M. Am. Nat., 16, p. 1002.

Spots pale brown, border a little darker; perithecia black, amphigenous, upper portion deciduous, 90μ in diameter; sporulæ subhyaline, oblong, $9 \times 2 \mu$. On leaves of *Solanum*. Kentucky.

66. PHYLLOSTICTA TUBEROSA, E. & M. Ellis, N. A. F., No. 1161.

Spots brown, subregular, soon breaking out, 2-3 millim., border dark brown; perithecia brown, lenticular, epiphyllous, 180μ in diameter; sporulæ hyaline, ovate, nucleate, $12-18 \times 4-6 \mu$. On *Asclepias tuberosa*. New Jersey.

67. PHYLLOSTICTA VERBENICOLA, Martin, n. s.

Spots pallid, soon breaking out, 1-2 millim., border red-brown; perithecia dark brown, lenticular, amphigenous, few in a spot, 140μ in diameter; sporulæ subhyaline, ellipsoid, ends obtuse, $9 \times 3 \mu$. On leaves of *Verbena hastata*. New Jersey.

The above differs materially from *P. verbenæ*, Sacc. Mich., 1, p. 530.

68. PHYLLOSTICTA VERBASICOLA, E. & K. Torrey Bull., 11, p. 115.

Spots large, often coalescing, border indefinite; perithecia light-brown, epiphyllous, $120-150 \mu$ in diameter; sporulæ subhyaline, with a slight tint of brown, oblong-elliptic, $3\frac{1}{2}-5 \times 1\frac{1}{2}-2 \mu$. On leaves of *Verbascum Thapsus*. Kansas.

69. PHYLLOSTICTA VIOLÆ, Desm. Mich. 1, p. 143. Ellis, N. A. F., No. 1371.

Spots subcircular, pallid, 2-4 millim. in diameter, border brown, raised; perithecia brown, erumpent, lenticular, epiphyllous, $100-130 \mu$ in diameter, but few in a spot; sporulæ hyaline, oblong, or oval-oblong, $6-7 \times 3 \mu$. On leaves of *Viola cucullata*.

70. PHYLLOSTICTA CORYLINA, E. & M. Am. Nat., 18, p. 1264.

This is *Glaesporium Coryli*, (Desm.), see Vol. 1. p. 114, of this Journal.

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SYNOPSIS OF THE NORTH AMERICAN HYPOCREACEAE, WITH DESCRIPTIONS OF THE SPECIES.*

BY J. B. ELLIS AND B. M. EVERHART.

FAMILY HYPOCREACEÆ, DE NOTARIS.

Simple, or compound. Perithecia subcarnose, or ceraceo-membranaceous, never carbonaceous, bright colored, opening by a subcentral ostium. Stroma, when present, soft, waxy-^{Cerose}carpate, or occasionally cottony. Sacc. Syll., II, p. 447.

SUB-FAMILY I, HYPOCREOIDEÆ.

GEN. I, CLAVICEPS, TUL.

1. *CLAVICEPS PURPUREA* (Fr.), Tul. Ann. Sci. Nat., 1853, XX, Tab. 3.

The ascigerous form of this species, which grows from the *Sclerotium* (ergot), often found in heads of rye, and in various other species of the order *Gramineæ*, has not, so far as we are aware, been met with in this country, through its *Sclerotium*, or condensed mycelium (*Sclerotium clavus*, D. C.), is very common.

This species is characterized as follows: Heads sphaeroid, tuberculose from the prominent perithecia, borne on short fluxuous stems; asci narrow, linear, 8-spored; sporidia filiform, continuous, attenuated toward each end, hyaline, 50—76 μ long. *Fusarium heterosporum*, Nees. and *Oidium abortifaciens*, B. and Br. are considered to be the conidia of this species.

2. *CLAVICEPS MICROCEPHALA* (Wallr.), which differs from *C. purpurea*, principally, in its smaller size (stem filiform, 10—16 millim. long, head globose, rufous, .05 millim.), grows from the ergot of *Phragmites communis*, which, however, also produces the first-mentioned species. Both these may be raised by cultivation of their sclerotia, which may be lightly covered with earth, kept properly moistened in a flower pot.

GEN. II, *CORDYCEPS*, FRIES.—Stroma vertical, entomogenous, or occasionally mycogenous, clavate. Sporidia filiform, hyaline, separating into joints.

A. ENTOMOGENÆ.

X. *Stroma simple, head rounded, or elliptical.*

3. *CORDYCEPS ENTOMORRHIZA* (Dicks.)

Carnose; head subglobose, fuscous; stipe slender, simple or double, subcompressed, 2 inches long, and over; asci cylindrical; sporidia filiform, hyaline, breaking up into cylindrical joints, or sections, 7—8 μ long.

Growing from larvæ of insects. Carolina (Ravenel).

* The arrangement here adopted is that of Cooke, in Grevillea, Vol. XII, p. 102.

4. *CORDYCEPS ARMENIACA*, B. & C. Journ. Linn., Soc., 1, p. 159. Tab. 1, fig. 1.

Apricot-colored, stipe flexuous, rather short, 8 millim. long; head subglobose, rather pale, roughened by the perithecia; asci elongated, subinflated at the apex; sporidia linear (?), immature.

On dung of birds, probably from the remains of insects eaten. Carolina (Ravenel).

XX. *Stroma furcate, or ramose.*

5. *CORDYCEPS PALUSTRIS*, Berk. & Br. Linn. Journ., 1. c., fig. 5.

Carnose-suberose, dark, dirty flesh-colored, stipe cylindrical, bifid, or trifid above, 25—50 millim. long, including the clavate subcylindrical head, which is roughened by the projecting ostiola; sporidia filiform, separating into small ($1\frac{1}{2}$ μ) globose joints. On dead larvæ in damp ground. Carolina (Ravenel).

XXX. *Stroma simple, head elongated.*

6. *CORDYCEPS STYLOPHORA*, Berk. & Br. Linn. Journ., 1. c., fig. 3.

Yellow; stipe slender, 12—18 millim. long, $\frac{1}{2}$ millim. thick; head much elongated, with the surface nearly smooth; perithecia immersed. On dead larvæ. Carolina (Ravenel).

The specimen in Ravenel's Fungi, Car., Exsicc., V, No. 49, has the slender stem a little over 2 cm. long, the ascigerous part occupying a medial position, cylindrical, and slightly enlarged, about 8 millim. long by 1 millim. thick, with a sterile, slender beak, about $\frac{1}{2}$ cm. long, being a prolongation of the stipe, but the specimen is apparently immature, being without asci or sporidia.

7. *CORDYCEPS CLAVULATA*, Schw. Syn., N. Am., 1155. On dead scale insects (Lecanium), on living branches of *Fraxinus* and *Prinus*, N. Y. (Peck). On branches of *Clethra*, Newfield, N. J.

From specimens collected by Prof. Peck, and distributed in de Thuemen's Mycotheca Universalis, No. 1258, we have drawn the following description: Stroma simple, clavate, about $3 \times \frac{1}{4}$ millim., consisting of a light cinereous stipe, surmounted by a black ovate, or elliptical head, about 1 millim. high and $\frac{1}{2}$ millim. thick, roughened by the rounded prominent perithecia, which are of coarse cellular structure, and only imperfectly perforated above; asci sessile, broadest in the middle, contracted above, and rounded at the apex. $80-95 \times 8-10 \mu$; sporidia filiform, multiseptate, $40-70 \times 1\frac{1}{2}-2 \mu$, joints $3-5 \mu$ long.

In Sacc. Sylloge, II, p. 568, the species represented by the above specimens is made a synonym of *C. pistillariæformis*, B. & Br., but if the two species are the same, the name of Schweinitz has priority, and it is quite certain that the specimens in M. U., 1258, are the genuine *C. clavulata* Schw.

8. *CORDYCEPS MILITARIS* (Linn.)

Growing from dead pupæ of moths buried just below the surface of the ground. Massachusetts (Farlow), Carolina (Ravenel), Pennsylvania (Everhart), New York (Peck), New Jersey (Ellis), California (Harkness), Wisconsin (Trelease) conidia.

Stromata solitary, or sometimes several, issuing usually from the head, but sometimes from the articulations of the pupa. orange-colored, 4—5 cm. high, including the elongated-clavate head, which is 1—1½ cm. long, and minutely tuberculose from the subconic, emergent, orange-red perithecia. Asci slender, 115—150 x 4—5 μ , containing eight slender filiform closely-jointed sporidia, nearly as long as the asci, and breaking up into minute ($\frac{1}{2}$ — $\frac{3}{4}$ μ), hyaline, subelliptical segments. The conidial stage (*Isaria farinosa*, Fr.), is often met with, and resembles a small white plume of about the same height as the ascigerous stroma, and more or less branched above.

9. *CORDYCEPS RAVENELII*, B. & C. Journ. Linn., Soc. I, p. 159, tab. 1, fig. 4. Growing from dead larvæ of the "June-beetle" (*Lachnosterna fusca*) and other larvæ (?), buried in the ground. Carolina (Ravenel), Iowa (Bessey), Pennsylvania (Everhart).

Stroma (stipe) elongated, flexuous, compressed and sulcate when dry, at first minutely tomentose, finally nearly glabrous, 5 inches or more high (see Riley, in American Entomologist, 1880), including the elongated-cylindrical head, which is roughened by the superficial, black, subhemispherical, large (175—200 μ) perithecia. Asci linear-cylindrical, 150—200 x 7—9 μ , slightly narrowed above and rounded at the apex, containing 8, filiform sporidia, nearly as long as the asci, about 2 μ thick, and breaking up into joints 3—5 μ long. The specimens in Rav., Fungi Car. Exsicc. IV. No. 28, are from 8—10 cm. high, the yellowish-brown stem about 2 millim. thick, enlarged above, in that part occupied by the perithecia, to about 3 μ thick; but the specimens are, no doubt, considerably smaller than when fresh.

Descriptions and good drawings of this and the two preceding species are given in Journ. N. Y. Microscop. Soc., Vol. I, p. 91 et seq., by Rev. J. L. Zabriskie.

10. *CORDYCEPS ACICULARIS*. Rav. Linn. Journ., l. c., fig. 2. (*C. Caroliniensis*, B. & Rav., in Rav. Fungi Car. Exsicc. IV, No. 29).

Fuscos; stipe slender, elongated; head cylindrical, with a long acuminate sterile apex; perithecia superficial, free; asci very long, flexuous; sporidia linear, breaking up into truncate segments about 5 μ long. On larvæ buried a little distance below the surface of the ground. Carolina (Ravenel).

We have copied the above description from Saccardo's Sylloge II, p. 574.

The specimens in Rav. Exsicc. have a filiform flexuous stem, yellowish-brown below, cinereous and attenuated above, 8—10 cm. high, and (in our copy) entirely sterile.

11. *CORDYCEPS SUPERFICIALIS*, Pk., 28th Rep. N. Y. State Mus., p. 70. Under hemlock trees on buried larvæ. Northville, N. Y. August. (Peck.)

"Slender, about 1 inch high, smooth, brown, the sterile apex gradually tapering to a point; perithecia crowded, superficial, subglobose, blackish-brown, sometimes collapsed, with a small, papilliform ostiolum; asci cylindrical; spores long, slender, filiform. Related to and intermediate between *C. Ravenelii* and *C. acicularis*. The stem of the plant is about equal in length to the club, or perithecia-bearing part. The perithecia are more loosely placed at the extremities of the club, thereby giving it a subfusiform shape. The spores are more slender than those of *C. acicularis*, but the plant itself is less elongated and slender." We have seen no specimens, and copy the above from the report cited.

XXXX. *Perithecia scattered on the stroma, scarcely capitate.*

12. *CORDYCEPS SPHINGUM*, Tul. Sel. Carp., III. p. 12.

Growing from dead moths, of the genus *Sphinx*. Massachusetts (Farrow, in "List of Fungi found in the vicinity of Boston." Bull. Bussey Inst.)

Stromata arising from a thin pale-ochraceous crust, overspreading the matrix, very slender and rather rigid, scattered, 50 millim. long; springing mostly from the abdominal rings; perithecia seated on the crust itself, or on the lower or medial parts of the slender stromata, subsuperficial, sparingly caespitose, or collected into a tolerably dense spike (*densius in spicam digestis*), narrow, ovate, $\frac{1}{4}$ millim. long, glabrous, carnose, pale reddish; asci very long, cylindrical, 4μ thick; sporidia very narrow filiform. The conidial stage is *Isaria Sphingum*, Schw.

(To be continued.)

SKETCH OF DE SCHWEINITZ.*

BY W. A. KELLERMAN.

Lewis David von Schweinitz was born at Bethlehem, Pa., Feb. 13th, 1780. His father is said to have belonged to an ancient and distinguished family of Silesia, Germany. He was superintendent of the "fiscal and secular concerns" of the Moravian Brethren of North America. Schweinitz was doubtless much influenced in determining his choice of vocation by his father, but still more by his maternal ancestors. His mother was Dorothea Elizabeth de Watteville, daughter of Baron (afterwards Bishop) John de Watteville and Benija, who was a daughter of Count Zinzendorf. Nicholas Lewis Count Zinzendorf (born in Dresden in 1700) was celebrated in his early youth for forming religious societies.

* This sketch is based on "A Memoir of the late Lewis David von Schweinitz, P. D., with a sketch of his scientific labors, read before the Academy of Natural Sciences of Philadelphia, May 12th, 1835, by R. Walter Johnson," to which the reader is referred for a more extended account. A MSS. copy of this was placed in my hands by the kindness of Mr. Eugene A. Rav. The latter also furnished a photograph of the lithographic likeness accompanying the memoir, from which our portrait was prepared.

He was afterwards associated with Watteville in founding the system of the "Unitas Fratrum." He established the village of Herrnhut; and from this little colony many missionaries were sent out to all parts of the world to instruct the heathen. At Germantown, and other places near, he held frequent religious discourses, in 1742, and in Philadelphia in a Latin speech renounced his title of Count, resuming his original family name, and was afterwards known among the Quakers as "Friend Lewis." Under his immediate agency, the colony at Bethlehem was founded. He died at Herrnhut in 1760, after having established his missions in all parts of the globe, and sent out a thousand individuals to proclaim his doctrines. Such a distinguished example, "the ancestor of his family and the father of his denomination," deeply impressed the imagination of Schweinitz, who very early conceived the laudable desire of entering upon a career of similar activity. This was the initiative step toward literary and scientific acquisitions. "Endowed with the powers of conception of no ordinary cast, he gave early indications of his bias for intellectual pursuits, and by his assiduity more than compensated for any deficiency in the means of improvement then within his reach. The clear and explicit manner in which his juvenile ideas were expressed encouraged his fond parents to indulge the hope that he would one day become an active instrument for advancing the cause to which themselves and their predecessors had been so assiduously devoted. Being the eldest son of his parents, and, at that period, of delicate constitution, it is reasonable to suppose that maternal influences had much to do in the development of his faculties. It was, moreover, on the side of his mother that he was related to Watteville and Zinzendorf; hence we may readily suppose that from this source he derived the partiality for addressing to his friends short speeches and little sermons which, it is said, occasionally amused the circle around his paternal fireside. We are aware that, in general, anticipations founded on an exhibition of precocious talents are apt to be signally disappointed; but when the display is that of an intellectual tendency, rather than a mere capacity for some one attainment, and when the spirit for mental labor is found capable of being directed into different channels at the instance of others and does not consist of a blind instinct, compelling the possessor to follow some narrow path of intellectual effort, the augury may, we apprehend, be received with less doubt and uncertainty. Such was the case with Schweinitz." He was placed, in 1787, in the institution of the Moravian community at Nazareth. Here he remained for eleven years, and during this time was, as a pupil, most industrious, observant and successful. He, in subsequent times, referred to this enjoyable period with much pleasure. It was here, also, that his amiable and social traits received a happy development. It was at Nazareth, though before he was a pupil in the institution, that he refers his first impulse to the study of botany. He visited the place in company with his grandfather, Bishop de Watteville, and noticed on the table in

one of the rooms of the school a Lichen, whose name and characters were commented upon; and from this time forward he was a most enthusiastic student of the vegetable kingdom. One of the teachers at Nazareth gave him instruction in botany, and while he was a student at the place, he prepared A Partial Flora of Nazareth, which is still among his unpublished manuscripts. He made such progress in his studies, and his deportment also was such as to secure his appointment as instructor to some of the classes while he was yet a student in the institution. In 1798, his father was called to Germany. His family accompanied him; and Schweinitz was placed in the theological institution at Niesky, in upper Lusatia. He was associated with young men of talent and energy, and his activities were here redoubled. J. B. d'Albertini was professor in the institution,—a man of great learning and decision of character. To him Schweinitz was drawn by strong sympathy, and their mutual esteem afterward developed into the closest intimacy. After completing his theological studies, he engaged in teaching in the Academy at Niesky. He was all this time not only a diligent student of fungi, but “scarcely any topic in the wide field of science escaped his notice, and especially did the constitution and management of the affairs of his social and religious fraternity call forth from his pen many able and spirited articles.” So many interesting and new genera and species of fungi had by this time been found by himself and Albertini that in 1805 a volume of about 400 pages was published by them conjointly, bearing the following title:

CONSPECTUS FUNGORUM IN LUSATIÆ SUPERIORIS AGRO NIESKIENSI
CRESCENTIUM E METHODO PERSONIANA. CUM TABULIS XII,
ÆNEIS PICTIS, SPECIES NOVA XCIII SISTENDIBUS. AUCTORIBUS
J. B. DE ALBERTINI, L. D. DE SCHWEINITZ, LEIPSIÆ, 1805.

Schweinitz engaged in preaching, before he left Niesky, and in 1807 he was called to similar work in the Moravian settlement at Gnadenberg, in Silesia. The following year he was called to Gnadau, in Saxony, and remained there till 1812. At this time he was appointed general agent of his church in the United States. He married before leaving, and with his wife was compelled, on account of Napoleon's operations, to take a route through Denmark and Sweden, in order to embark for this country. This was advantageous to him, on account of extending his acquaintanceship with men of learning. At Kiel, in Holstein, he became known to many professors of the University; and that institution bestowed upon him the same year the honorary title of Doctor of Philosophy. It was a perilous voyage to make at that time, for the United States had declared war against Great Britain. Besides, they encountered terrible storms, and their vessel was dismasted. They finally reached the shore in safety; and he began his work according to appointment, at Salem, N. C. In the meantime, “he found time to prosecute the study of botany in a dominion, scientifically speaking, all his own.” The results of his work on the fungi were communicated to the world through the

publications of the Society of Naturalists at Leipsic, 1818. His friend, Dr. D. F. Schwægrichen attended to the publication, and the title it bore is as follows:

SYNOPSIS FUNGORUM CAROLINÆ SUPERIORIS SECUNDUM OBSERVATIONES LUDOVICI DAVIDIS DE SCHWEINITZ.

In this year, he was called to a meeting of his brethren at Herrnhut, and on his way there he visited England, France and Holland. At these places, he visited learned men, and established correspondences that were of great advantage to him subsequently. Some time after his return in 1821, he published a pamphlet containing Descriptions of seventy-eight Hepaticæ. In the same year, he sent to *Silliman's Journal* a Monograph of the genus *Viola*. At the end of this year, he was located in his native village of Bethlehem, Pa., both to continue his church duties and to take charge of the institution, for the education of females. He was, therefore, permitted once more, but in the "vigor of his scientific maturity," to visit the scenes of his first botanical exploits. His herbarium was, in the meantime rapidly increasing, his correspondence widening, and the value of his work was appreciated: this resulted in his election to several societies of natural history in America and Europe. In 1823, he worked up the botanical collections of Say in Long's expedition, though he did this with reluctance, regretting the absence of Nuttall, who had previously agreed to undertake the task. Near the close of this year, Schweinitz presented to the Lyceum of Natural History, at New York, a paper containing instructions for determining the American species of *Carex*. In 1824, he published in the *American Journal of Science* a short paper on the rarer plants of eastern Pennsylvania. In this year, also, his monograph of North American *Carices* appeared, but previous to its publication, he had placed it in the hands of Torrey, Schweinitz having been called for the third time to Europe. He said, on his return, that "The judicious and elaborate amendments he had proposed, and the mass of new and valuable matter he had added, entitle Dr. Torrey to a participation in the authorship of the work."

While he was absent (in 1824) in Europe, his paper, DESCRIPTIONS OF A NUMBER OF NEW AMERICAN SPECIES OF SPHERIA, was published by the Philadelphia Academy of Sciences. He continued his mycological work on his return, having given up the superintendency of the literary institution. He devoted his leisure time to his synopsis of North American Fungi (SYNOPSIS FUNGORUM IN AMERICA BOREALI MEDIA DIGENTUM), designed for a European journal, but published in the transactions of the Philosophical Society, of Philadelphia, 1831. His health, heretofore very good, now began to fail. The great amount of work and care, on account of his official station, and the composition of a dissertation on the affairs of his community, deprived him of his usual out-door exercise, depressed his cheerful spirit, and fatally undermined his health. A trip to Indiana on church duties seemed to revive him for a time. But his strength gradually declined, until the 8th of February, 1834, when he died calmly and unconsciously, at the age of 54 years.

NEW LITERATURE.

BY W. A. KELLERMAN.

"A NEW LARVAL ENTOMOPHTHORA," by J. C. Arthur, *Botanical Gazette*, January, 1886. The author found the clover-leaf weevil, *Phytonomus punctatus*, Fabr., a comparatively new insect in this country, infesting the clover in the region near Geneva, N. Y. The larvæ were dying in vast numbers, and, upon examination, the cause was discovered in the shape of a new species of Fungus, described as follows:

ENTOMOPHTHERA PHYTONOMI, Arthur. — Mycelium abundant, branched, non-septate, colorless, 9—12 μ in diameter, on the ventral surface of the insect, growing out in form of rhizoids to act as holdfasts; hymenium over the whole surface, except the head, 35—45 μ deep; conidiophores branched at the base, as thick as the mycelium; spores oblong, colorless, 24—28 μ long by 7—10 μ thick. Resting spores not seen. In the larvæ of *Phytonomus punctatus*, Fabr., Geneva, N. Y., May to June and October to November, 1885.

"UN GENRE DE TROP (PHLEBOPHORA, LEV.) DANS LA DIVISION DES HYMENOMYCETES." C. Roumeguere. *Revue Mycologique*, 1er Janvier, 1886.

"FUNGI ALGERIENSES, — A CLARO PROF. L. TRABUT LECTI." Auctoribus P. A. Saccardo et A. N. Berlese.

"UNE SEMAINE D'EXCURSIONS MYCOLOGIQUES A SENLIS (OISE)." Par le capitaine Fredric Sarrazin. l. c.

"DR. REHM: ASCOMYCETEN FASC. XVII." *Hedwigia*, November und December, 1885.

"AGARICUS CIRRHATUS, PERS., ENI NEUER PHOSPHORESCIRENDER PILZ." Vorläufige Mittheilung von Dr. F. Ludwig. l. c.

"RABENHORSTII FUNGI EUROPÆI ET EXTRAEUROPÆI CURA." DR. G. WINTER, CENTURIA XXXIII ET XXXIV. l. c.

"SOPRA UNA SPECIE DI LOPHIOSTOMA MAL CONOSCIUTA." Nota di A. N. Berlese. *Nuovo Giornale Botanico Italiano*. 4 Gennaio, 1886.

"ALCUNE OSSERVAZIONI SOPRA UNA NUOVA MALATTIA DEL FRUMENTO;" del Dott. Fausto Morini. l. c.

"ENUMERAZIONE DEI FUNGHI DELLE PROVINCE DI MODENA E DI REGGIO, PER A. MORI. l. c.

"REPORT OF THE BOTANIST TO THE NEW YORK AGRICULTURAL EXPERIMENT STATION." By J. C. Arthur. Extr. from Fourth An. Rep. N. Y. Exp. Sta., for 1885. Distributed Jan. 30th, 1886.

This report of twenty-four pages contains the following articles: Pear Blight, *Micrococcus amylovorus*, B.; Spotting of Quince Fruit, *Morthiera Mespili*, Fckl., var. *Cydoniæ*, C. & E. (illustrated); Rotting of Tomatoes; Lettuce Rust, *Septoria Lactuæ*, Pass. (illustrated); Lettuce Mildew, *Peronospora gangliiformis*, De B. (illustrated); Rotting of Cherries and Plums, *Oidium fructigenum*, S. & K. (illustrated); Disease of Clover-leaf Weevil, *Entomophthora Phytonomi*, Arthur (illustrated); and Weeds and their Fungus Parasites.

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